

REMARKS/ARGUMENTS

The amendments to Claims 1 and 2, and new Claims 21 and 22, are supported at specification page 5, lines 3-5 and by, e.g., specification page 23, lines 13-15. Allowable Claims 4 and 13 have been placed in independent form. Other amendments are formal in nature, and supported by the claims as originally filed. No new matter has been entered.

Applicants would like to thank Examiner Cain for a helpful and courteous interview of March 6, 2008, and for the indication of allowable subject matter in Claims 4 and 13. As discussed and agreed during the interview, Claims 1 and 2 have been amended to point out that the mass ratio described in the claims is the ethylene/vinyl acetate mass ratio of the EVA resin. See, e.g., specification page 5, line 4, and Example 1 at page 23, lines 14-15. As the ethylene portion has been amended to be at least 55% in Claims 1 and 2, these claims have been written to require an ethylene/vinyl acetate mass ratio of 55/45, the sum of these two numbers totaling 100. Similar ratios have been used in allowable Claims 4 and 13.

As also discussed, this amendment to Claims 1 and 2 removes the rejection over WO '968. Specifically, WO '968 describes suitable polyvinyl acetate emulsions at page 7, lines 16ff, none of which lead one of ordinary skilled in the art to the particularly claimed ethylene/vinyl acetate mass ratio of at least 55/45. For example, Airflex 405, used in the Examples of WO '968, is one that shows in its MSDS (attached), the presence of residual monomer indicating that the material is produced by emulsion polymerization. Because it is impossible to obtain a polymer having an ethylene/vinyl acetate mass ratio of even 40/60 by emulsion polymerization it is clear that WO '968 does not guide one of ordinary skilled in the art to the presently claimed latex composition.

As detailed in the several Examples and Comparative Examples of record in the present specification, latex compositions that use EVA resin emulsion components as claimed which meet the required ethylene/vinyl acetate mass ratio of at least 55/45 provide excellent

adhesive strength as compared with, e.g., similar compositions using EVA resin emulsions with ethylene/vinyl acetate mass ratios outside the presently claimed range (e.g., Comparative Example 5). Because nothing in WO '968 discloses or suggests either the particular composition as claimed, or the superior benefits provided thereby, Applicants respectfully submit that the outstanding rejection over WO '968 should be withdrawn.

Accordingly, and in view of the special help during the interview, the above amendment and remarks, Applicants respectfully submit that the present application is in condition for allowance, and early notification to this effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.



---

Richard L. Treanor  
Attorney of Record  
Registration No. 36,379

Customer Number

**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
(OSMMN 08/07)

# Material Safety Data Sheet

Version 1.22

Revision Date 03/12/2006

MSDS Number 300000004821

Print Date 09/09/2007

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : AIRFLEX® 405 Emulsion

Product Use Description : Adhesives, Binders, and Coatings

Company : Air Products Polymers, L.P.  
7201 Hamilton Blvd.  
ALLENTOWN, PA 18195-1501

Telephone : 1-800-345-3148 Chemicals  
1-800-752-1597 Gases and Electronic Chemicals

Emergency telephone number : 800-523-9374 USA  
01-610-481-7711 International

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Concentration (Weight)
Vinyl acetate/ethylene copolymer		40% - 60 %
Water	7732-18-5	40% - 60 %
Vinyl Acetate Monomer	108-05-4	< 0.5 %
Biocide		< 0.01 %

Vinyl Acetate/Ethylene Copolymer The composition is trade secret. Contains no other components or impurities which will influence the classification of the product. Concentration is nominal. For the exact product composition, please refer to Air Products technical specifications.

## 3. HAZARDS IDENTIFICATION

### Emergency Overview

Mild eye irritation.

### Potential Health Effects

Inhalation :

Eye contact : May cause eye irritation.

### Exposure Guidelines

Primary Routes of Entry : Ingestion  
Eye contact  
Skin contact  
Inhalation

Target Organs : None known.

# Material Safety Data Sheet

Version 1.22  
Revision Date 03/12/2006

MSDS Number 300000004821  
Print Date 09/09/2007

## Aggravated Medical Condition

---

### 4. FIRST AID MEASURES

- |              |  |
|--------------|--|
| Eye contact  | : Rinse immediately with plenty of water, also under the eyelids.  |
| Skin contact | : Wash off with soap and water.  |
| Ingestion    | : Call a physician immediately. Do not induce vomiting without medical advice.   |
| Inhalation   | : If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air. |

---

### 5. FIRE FIGHTING MEASURES

- |  |   |
|--|---|
| Suitable extinguishing media                   | : The product will only burn after the water it contains is driven off. Use extinguishing media appropriate for surrounding fire.     |
| Specific hazards                               | : When dried polymer burns, water (H <sub>2</sub> O), carbon dioxide (CO <sub>2</sub> ), carbon monoxide (CO) and smoke are produced. |
| Special protective equipment for fire-fighters | : No special procedures required. The product, as distributed, is noncombustible.   |

---

### 6. ACCIDENTAL RELEASE MEASURES

- |                           |   |
|---------------------------|---|
| Personal precautions      | : Wear suitable protective clothing, gloves and eye/face protection. Ventilate the area. Self contained breathing apparatus (SCBA) may be required.   |
| Environmental precautions | : Product imparts a milky white color to contaminated waters. Foaming may result. Sewage treatment plants may not be able to remove the white color imparted to the water.  |
| Methods for cleaning up   | : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Flush with plenty of water. Wash contaminated property (e.g. automobiles) quickly before the material dries. |
| Additional advice         | : Spilled polymer emulsion is very slippery. Use care to avoid falls. A film will form on drying. Remove saturated clothing and wash contacted skin area with soap and water.   |

---

### 7. HANDLING AND STORAGE

#### Handling

Use only in well-ventilated areas. Avoid contact with eyes. Avoid contact with skin. Avoid breathing vapors

# Material Safety Data Sheet

Version 1.22  
Revision Date 03/12/2006

MSDS Number 300000004821  
Print Date 09/09/2007

and/or aerosols. When using, do not eat, drink or smoke.

## Storage

Keep from freezing. Store in closed containers. Prevent inoculation with microorganisms. Minimize exposure to air.

---

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Engineering measures

No specific controls needed.

### Personal protective equipment

- |   |  |
|---|--|
| Respiratory protection                          | : Not required under normal use.   |
| Hand protection                                 | : Rubber gloves.<br>The breakthrough time of the selected glove(s) must be greater than the intended use period.   |
| Eye protection                                  | : Chemical safety glasses.   |
| Skin and body protection                        | : No specific recommendation.  |
| Special instructions for protection and hygiene | : Minor components will migrate into the container headspace. Levels in excess of the exposure limits can accumulate in non-vented container headspaces. Formaldehyde concentrations in the workplace air may exceed the exposure limit under unusual conditions of use. Provide readily accessible eye wash stations and safety showers. Under normal conditions of use in a well ventilated space, the concentration of minor components in the workplace air will not exceed the exposure limits. |

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

- |                     |  |
|---------------------|--|
| Color               | : White.   |
| Odor                | : Sweet.   |
| Vapor pressure      | : 18.65 mmHg at 21 °C  |
| Density             | : 65.549 lb/ft <sup>3</sup> (1.05 g/cm <sup>3</sup> ) at 70 °F (21 °C) |
| pH                  | : 5.5  |
| Boiling point/range | : > 212 °F (> 100 °C)  |
| Water solubility    | : Dispersible.   |

---

## 10. STABILITY AND REACTIVITY

# Material Safety Data Sheet

Version 1.22  
Revision Date 03/12/2006

MSDS Number 300000004821  
Print Date 09/09/2007

Stability	: Stable. Coagulation may occur following freezing, thawing or boiling.
Conditions to avoid	: Not applicable.
Hazardous decomposition products	: Depending upon formulation conditions (such as pH>7), the level of acetaldehyde may increase as a result of hydrolysis of residual vinyl acetate monomer. Aldehydes. Acetic Acid.

---

## 11. TOXICOLOGICAL INFORMATION

### Acute Health Hazard

Ingestion	: No data available.	
Inhalation	: No data available.	
Inhalation - Components Vinyl Acetate Monomer	LC50 (1 h) : 5656 ppm	Species : Rat.
Skin.	: No data available.	

### Chronic Health Hazard

This product contains small amounts of vinyl acetate monomer. ACGIH evaluated vinyl acetate (1993) as an A3 - Animal Carcinogen: Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes of exposure. The International Agency for Research on Cancer (IARC) published a monograph on vinyl acetate (1995). In this monograph IARC indicates "there is inadequate evidence in humans for carcinogenicity of vinyl acetate. There is limited evidence in experimental animals for carcinogenicity of vinyl acetate." Normally, this lack of conclusive evidence would place a substance in the IARC Category 3 classification (Not classified as a human carcinogen). However, because vinyl acetate is metabolized to acetaldehyde, which has an IARC 2B (Possibly carcinogenic to humans) classification, it also has been listed under Category 2B.

---

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity effects

Aquatic toxicity	: No data is available on the product itself.
Toxicity to other organisms	: No data available.

### Persistence and degradability

Mobility	: No data available.
Bioaccumulation	: No data is available on the product itself.

---

## 13. DISPOSAL CONSIDERATIONS

Waste from residues / unused	: Ensure all national/local regulations are observed. For small quantities (less
------------------------------	--

# Material Safety Data Sheet

Version 1.22  
Revision Date 03/12/2006

MSDS Number 300000004821  
Print Date 09/09/2007

products

than 100 gallons): Disposal to municipal or industrial waste water treatment plants is normally acceptable. Obtain approval from these Authorities before disposal. The product does impart a white, milky color to water, which may not be removed or sufficiently diluted by the treatment facility. The product may also cause foaming when agitated. The product can be chemically or biologically degraded. For large quantities: Disposal through licensed waste disposal facilities is suggested. The product can be incinerated, although chemical or biological treatment is sufficient. Chemical precipitation/coagulation can be used to facilitate removal of solids (consult manufacturer for detailed procedure). NOTE: As supplied or diluted, product material (foam included), when splashed on automobiles or other personal property, is difficult to remove if allowed to dry.

## 14. TRANSPORT INFORMATION

CFR

not regulated

IATA

not regulated

IMDG

not regulated

CTC

not regulated

Further Information

Not dangerous goods

## 15. REGULATORY INFORMATION

Toxic Substance Control Act (TSCA) 12(b) Component(s):

5-Chloro-2-Methyl-4-Isothiazolin-3-One

2-Methyl-4-Isothiazolin-3-One

OSHA Hazard Communication Standard (29 CFR 1910.1200) Hazard Class(es)

No OSHA Hazards.

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
Japan	ENCS	Not determined.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.

# Material Safety Data Sheet

Version 1.22  
Revision Date 03/12/2006

MSDS Number 300000004821  
Print Date 09/09/2007

---

Philippines	PICCS	Not determined.
-------------	-------	-----------------

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification:  
No SARA Hazards

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level:  
Vinyl Acetate Monomer

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)  
WARNING! This product contains a chemical known in the State of California to cause cancer.  
Formaldehyde

WHMIS Hazard Classification  
Very Toxic Material Causing Other Toxic Effects

---

## 16. OTHER INFORMATION

### HMIS Rating

Health	: 1
Flammability	: 0
Physical hazard	: 0

Prepared by : Air Products and Chemicals, Inc. Global EH&S Product Safety Department

For additional information, please visit our Product Stewardship web site at  
<http://www.airproducts.com/productstewardship/>